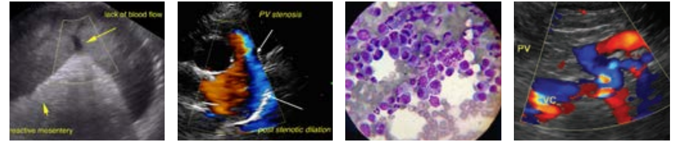
SonoPath

Clinical Sonography & Telecytology



EDUCATIONAL TELECONSULTATION SERVICES™

SonoPath.com™
1-800-838-4268 info@sonopath.com

PATIENT

Bella Sargent

SPECIES

Canine

BREED

Terrier X

SEX

Spayed Female

AGE

5 Years

WEIGHT

25.9 Pounds

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Dr. Amanda Favis

HOSPITAL NAME

Ruidoso AC

REFERRING VET

Dr Amanda Favis

INVOICE

42322

DATE

10/25/22

PRESENTING CLINICAL SIGNS

Acute onset PU/PD with urinary accidents in the home. Normal appetite and energy. No V/D/C/S. 8/22/2021 P was diagnosed with PLE (diarrhea, ascites, folate deficiency). P was started on Hills i/d and prednisone. Pred has been tapered to 5mg PO EOD long term.

Abnormal PE/Chem/CBC/UA Results: Severe microhepatica. BW performed on 10/18/2022 revealed hepatic elevations: AST 536 (15-66), ALT 579 (12-118), Alk Phos 1229 (5-131), GGT 45 (1-12), hyperbilirubinemia (1.0 (0.1-0.3)), hypercholesterolemia (338 (92-324)). Urinalysis on 10/18/2022 minimally concentrated with USG at 1.017 with quiet sediment. No other significant findings. PE unremarkable.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

The right kidney is normal in size (6.1 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

The left kidney is normal in size (5.9 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

Adrenal Glands

The right adrenal gland is normal in size (0.50 cm at the caudal pole and 0.44 cm at the cranial pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.25 cm at the cranial pole and 0.29 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

Spleen

The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

Liver

Liver is normal to subjectively quite small in size with slightly undulating or scalloped capsular contour or margins. Patchy ill-defined areas of increased echogenicity are present with reduced visualization of vessels. No overt nodules or masses are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

The gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.

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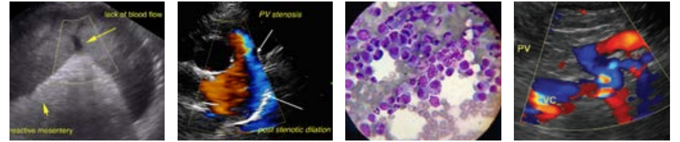

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Gastrointestinal

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

Pancreas

The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

Free Abdomen

There is no evidence of free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

ULTRASONOGRAPHIC FINDINGS

- Severe microhepatica with changes consistent with chronic inflammatory hepatopathy and some hepatic fibrosis. A vascular anomaly such as an extrahepatic portosystemic shunt cannot be definitively ruled out.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given this patient’s history of hypoalbuminemia and ascites, the question of decreased liver function possibly having contributed to that at the time that protein losing enteropathy was diagnosed is possible. The other differential is that the liver disease has developed since the protein losing enteropathy was diagnosed, and differentials include possibly infectious disease, given the immunosuppression from the protein losing enteropathy versus chronic bacterial cholangiohepatitis, chronic active hepatitis, or unrelated hepatotoxicity. Infiltrative neoplasia is possible but considered less likely.

Ideally, bile acids would be obtained to further assess liver function, but bile acids are not accurate if bilirubin is increased. Therefore, recommendations for further evaluation of the liver and portal vein include an abdominal CT scan followed ultimately by a liver biopsy, at which time biopsies of the GI tract are also recommended if safely able to perform given albumin level.

In the meantime, therapeutic recommendations in addition to current therapies in place include an ultra low-at diet if not already in place, a probiotic such as Proviable or Visbiome, empirical deworming with a 5-day course of Panacur (this is all given the history of diarrhea), combined potentially with hepatic nutraceuticals, broad-spectrum antibiotics, etc.

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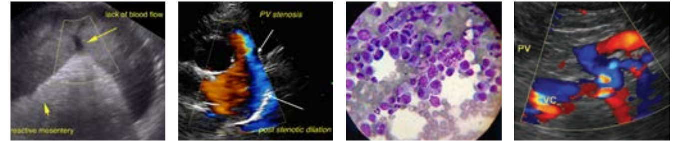

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

Beth Johnson, DVM, DACVIM
Beth.Johnson@sonopath.com